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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,923	05/10/2001	Sang-Ho Kim	5000-1-196	5841
33942	7590	06/01/2004	EXAMINER	
CHA & REITER, LLC 210 ROUTE 4 EAST STE 103 PARAMUS, NJ 07652			CURS, NATHAN M	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 06/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/852,923

Applicant(s)

KIM ET AL.

Examiner

Nathan Curs

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-6, 9-11, and 13-15 is/are rejected.
- 7) ☒ Claim(s) 3, 7, 8, 12, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-6, 9-11, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milton et al. (US Published Patent Application No. US 2003/0161635) in view of Anderson et al. (US Patent No. 6549572).

Regarding claim 1, Milton et al. disclose a bit rate transducer in an optical transmission system, comprising: a demultiplexer for demultiplexing optical signals into different wavelength channels (fig. 3, elements 10 and 19 and paragraphs 0042-0044); and a plurality of bit rate and format transparent receivers coupled to the output of said demultiplexing means for converting said demultiplexed optical signals into the corresponding electrical signals (paragraph 0009 and fig. 3, elements 14 and paragraph 0044) and for generating a bit rate error signal (fig. 10 and paragraphs 0055 and 0056); and a detecting section coupled to the output of said demultiplexer for generating a signal indicative of the bit rate of the optical signals outputted therefrom (fig. 10 and paragraphs 0055 and 0056), where the recorded value of the bits received over a given time is the signal indicative of the bit rate. Milton et al. also disclose regeneration at the nodes of the Milton et al. system, including clock recovery and subsequent digital signal regeneration (paragraph 0062), where it would have been obvious to one of ordinary skill in the art at the time of the invention that the electro-optic bit rate receivers (fig. 3, elements 14) would be the means to perform regeneration of the digital signals, but Milton et al. do not disclose that the bit rate

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receivers having a sensing means for generating a temperature reference signal; and, do not disclose a controller for comparing the bit rate detected by said detecting section with a predetermined data to generate a control signal that is used to adjust the bit rate of said bit rate receiver. Anderson et al. disclose bit rate and format transparent regenerative transponders for a WDM system with cross-connects and O/E, E/O converters (col. 1, lines 35-45 and col. 2, lines 24-37 and lines 53-64). Anderson et al. also disclose bit rate monitoring means (fig. 2, element 200), which produces a signal representing the detected bit rate (col. 5, lines 10-16 and col. 6, lines 52-58), and which recovers the signal clock, which can be used for regeneration (col. 5, lines 18-20 and col. 6, lines 20-26). Anderson et al. also disclose a controller (fig. 2, element 210 and 224) for comparing the bit rate detected by said detecting section with a predetermined data to generate a control signal that is used to adjust the bit rate of said bit rate transponder by controlling the clock recovery (which is used for regeneration) (fig. 2, element 224 and col. 5, lines 18-27), where the predetermined data is a bit rate look-up table including corrections for known temperature dependencies (col. 8, lines 36-43), thus revealing inherent temperature sensing means required in determining a bit rate estimate based on the detected bit rate having a temperature dependency. It would have been obvious to one of ordinary skill in the art at the time of the invention to control the clock recovery in the regeneration circuitry of Milton et al., using the temperature dependency compensating bit rate detection and clock recovery means of Anderson et al., so that the recovered clock used for data regeneration in the Milton et al. receivers could be corrected for temperature dependencies to regenerate the data at the correct bit rate.

Regarding claim 2, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 1, further comprising a switch for outputting said converted electric signals from the

respective said bit rate receiver to a respective bit rate transmitter (Milton et al.: fig. 3, element 15 and paragraph 0044).

Regarding claim 4, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 1, but do not disclose a first analog-to-digital converter for supplying the signal indicative of temperature of said bit rate receiver to said controller as digital signals. However, Anderson et al. disclose that the look-up table operates digitally (Anderson et al.: col. 8, lines 36-43), and includes correction for known temperature dependencies, where it would have been obvious to one of ordinary skill in the art at the time of the invention that the temperature sensing means would be an analog sensing means, since temperature is inherently analog, and that an analog-digital converter would be used to supply the temperature information to the digital look-up table.

Regarding claim 5, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 1, further comprises an analog-to-digital converter for supplying the signal indicative of bit rate detected by said detection section to said controller as digital signals (Anderson et al.: col. 5, lines 1-16), where an analog input to the rate detector (Anderson et al.: fig. 2, element 244) and a digital output of the rate detector (Anderson et al.: fig. 2, element 214), reveals an inherent analog-to-digital converter.

Regarding claim 6, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 1, wherein said predetermined data comprises a list of reference temperature with the corresponding reference bit rates (Anderson et al.: col. 8, lines 36-43).

Regarding claim 9, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 1, further comprising a means for generating said bit-rate error signal, wherein said bit-rate error signal is generated based on a difference between the detected bit rate by said bit

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rate receiver and a pre-set bit rate (Milton et al.: paragraphs 0055 and 0056), where the nominal bit rate value is a "pre-set" bit rate.

Regarding claim 10, Milton et al. disclose a bit rate transducer in an optical transmission system, comprising: a plurality of bit rate format transparent transmitters for converting incoming electrical signals into the corresponding optical signals (paragraph 0009 and fig. 3, elements 14 and paragraph 0044 and 0045) and for generating a bit-rate error signal (fig. 10 and paragraphs 0055 and 0056); a multiplexer for multiplexing said converted optical signals outputted from the plurality of said bit rate transmitters (fig. 3, elements 11 and 18 and paragraphs 0042-0044).

Milton et al. disclose a detecting section for generating a signal indicative of the bit rate of the optical signals outputted therefrom (fig. 10 and paragraphs 0055 and 0056), where the recorded value of the bits received over a given time is the signal indicative of the bit rate, but do not disclose this detecting section for the transmitters. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use bit rate detection means with the transmitted signals as well as with the received signals, since verifying the proper bit rate would be an asset in ensuring proper communication in both the receive direction and the transmit direction. Milton et al. also disclose regeneration at the nodes of the Milton et al. system, including clock recovery and subsequent digital signal regeneration (paragraph 0062), where it would have been obvious to one of ordinary skill in the art at the time of the invention that the electro-optic bit rate transmitters (fig. 3, elements 14) would be the means to perform regeneration of the digital signals being transmitted, but Milton et al. do not disclose that the bit rate transmitters have a sensing means for generating a temperature reference signal; and, do not disclose a controller for comparing the bit rate detected by a transmitter detecting section with a predetermined data to generate a control signal that is used to adjust the bit rate of said bit rate receiver. Anderson et al. disclose bit rate and format transparent regenerative

transponders for a WDM system with cross-connects and O/E, E/O converters (col. 1, lines 35-45 and col. 2, lines 24-37 and lines 53-64). Anderson et al. also disclose bit rate monitoring means (fig. 2, element 200), which produces a signal representing the detected bit rate (col. 5, lines 10-16 and col. 6, lines 52-58), and which recovers the signal clock, which can be used for regeneration (col. 5, lines 18-20 and col. 6, lines 20-26). Anderson et al. also disclose a controller (fig. 2, element 210 and 224) for comparing the bit rate detected by a detecting section with a predetermined data to generate a control signal that is used to adjust the bit rate of said bit rate transponder by controlling the clock recovery (which is used for regeneration) (fig. 2, element 224 and col. 5, lines 18-27), where the predetermined data is a bit rate look-up table including corrections for known temperature dependencies (col. 8, lines 36-43), thus revealing inherent temperature sensing means required in determining a bit rate estimate based on the detected bit rate having a temperature dependency. It would have been obvious to one of ordinary skill in the art at the time of the invention to control the clock recovery in the transmitter regeneration circuitry of Milton et al., using the temperature-dependency compensating bit rate detection and clock recovery means of Anderson et al., so that the recovered clock used for data regeneration in the Milton et al. transmitters could be corrected for temperature dependencies to regenerate the data at the correct bit rate.

Regarding claim 11, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 10, further comprising a switch for providing said incoming electrical signals to the plurality of said bit rate transmitters (Milton et al.: fig. 3, element 15 and paragraph 0044).

Regarding claim 13, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 10, but do not disclose a first analog-to-digital converter for supplying the signal indicative of temperature of said bit rate transmitter to said controller as digital signals. However, Anderson et al. disclose that the look-up table operates digitally (Anderson et al.: col.

8, lines 36-43), and includes correction for known temperature dependencies, where it would have been obvious to one of ordinary skill in the art at the time of the invention that the temperature sensing means would be an analog sensing means, since temperature is inherently analog, and that an analog-digital converter would be used to supply the temperature information to the digital look-up table.

Regarding claim 14, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 10, further comprises an analog-to-digital converter for supplying the signal indicative of bit rate detected by said detection section to said controller as digital signals (Anderson et al.: col. 5, lines 1-16), where an analog input to the rate detector (Anderson et al.: fig. 2, element 244) and a digital output of the rate detector (Anderson et al.: fig. 2, element 214), reveals an inherent analog-to-digital converter.

Regarding claim 15, Milton et al. in view of Anderson et al. disclose the bit rate transducer of claim 10, wherein said predetermined data comprises a list of reference temperature with the corresponding reference bit rates (Anderson et al.: col. 8, lines 36-43).

### ***Allowable Subject Matter***

3. Claims 3, 7, 8, 12, 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

4. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (703) 305-0370. The examiner can normally be reached M-F (from 9 AM to 5 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



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